JDBC

Java Database Connectivity. It is an API which is used to connect java application with the database and execute queries.

JDBC provides a standard method for ~~creating~~ Connecting to a database, executing SQL queries, and retrieving results.

There are five (5) steps to connect database in java.

(i) Register the Driver class : The drive class will be different for different database. Class.forName() method is used to register the Driver class ~~forer~~

(ii) Creating Connection object :- Establishing a connection to the database using DriverManager.getConnection().

DriverManager.getConnection("url", "user_name", "password");

(iii) Creating statement object :- Creating statement object for sending SQL statements to the database. using Connection.createStatement().

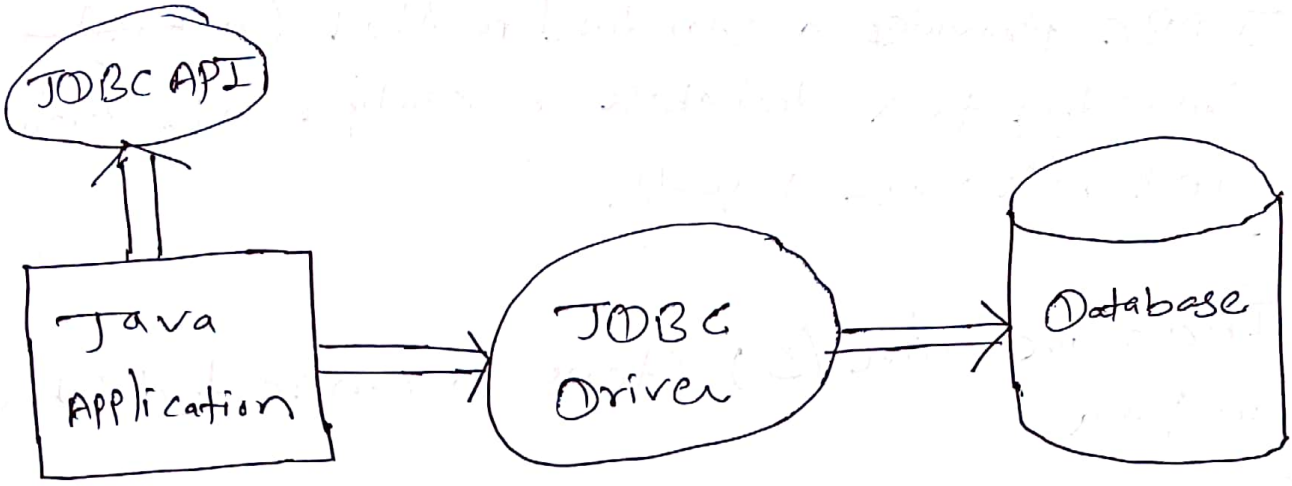
or

Connection.createStatement();

(iv) Executing Queries :- Executing queries that returns a ResultSet. Statement.execute Query (sql);

(v) Closing Connection :- Closing the connection using Connection.close(); function.

figure: Java Database Connectivity
JDBC Connection



JDBC API → provides classes and interfaces to connect java application with database.

JDBC Driver → Software component that enables java Applications to interact with a specific database.

1. JDBC-ODBC Bridge Driver
2. Native-API Driver
3. Network protocol Driver
4. Thin Driver (pure java)

Java Application → program written in java that uses JDBC API to connect to the Database, execute SQL statements and handle the results.

Database: Collection of relational data eg mysql, SQL server, oracle .. etc

JDBC Connection program in java (Notepad file) using Command prompt.

```
import. java.sql.*; // Import the SQL package
Public class database
{
  Public static void main (String args[] throws
   Exception
  {
    try{ // Load the mysql JDBC driver
        Class.forName ("com.mysql.cj.jdbc.Driver");

    // Establish a connection to the database "db_name" on
      localhost.

    Connection con = DriverManager.getConnection ("
                    jdbc:mysql://localhost:3306/
                    testdb", "root", " ");

    System.out.println ("Connection to database successfully
                        Established");

    // Create a statement object to execute SQL query
    Statement stmt = Con.createStatement ();

    // Execute query to select all records from the
    'users' table_name table.
    ResultSet rs = stmt.executeQuery ("select *
                                  from users");
    while (rs.next ())
    {
      System.out.println (rs.getInt ("id") + " " +
                          rs.getString ("name");
    }
```

```
        //close the resources
        stmt.close();
        con.close();
    }
    catch (Exception e)
    {
        System.out.println(e);
    }
}
```

To Compile : javac -cp driver.jar;. database.java

To Run : java -cp driver.jar;. database